REMARKS

The Office Action dated April 23, 2007 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1-19 and 21-30 are submitted for reconsideration.

Claims 1-19 and 21-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,542,466 to Pashtan (hereinafter Pashtan) in view of U.S. Patent No. 6,657,962 to Barri (hereinafter Barri) and further in view of U.S. Patent No. 6,404,738 to Reininger (hereinafter Reininger). The Office Action indicated that Pashtan teaches all of the elements of claims 1-19 and 21-30 except for disclosing that the adjusting comprises resource usage calculation. Thus, the Office Action combined the teachings of Pashtan with Barri and Reininger to yield all of the elements of claims 1-19 and 21-30 except. The rejection is traversed as being based on references that neither teach nor suggest the combination of elements recited in claims 1-19 and 21-30.

Claim 1, upon which claims 2-9 depend, recites a method including determining an operating condition at a first router in a differentiated service network having a plurality of routers based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers. The method also includes propagating an indication of the operating condition at the first router to a second router. A signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the operating condition of the first router being reflected in the indication. The method further includes adjusting at least one parameter of

constraint of incoming traffic flow based on the indication, wherein the adjusting includes renegotiating the at least one parameter of constraint or providing a recommendation based on the at least one parameter of constraint. The adjusting includes performing parameter mapping and resource usage calculation.

Claim 10, upon which claims 11-18 depend, recites a method including receiving, at a second router, an indication of an operating condition at a first router in a differentiated service network having a plurality of routers. The operating condition is determined in the first router based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers and wherein a signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the operating condition of the first router being reflected in the indication. The method also includes adjusting at least one parameter of a constraint of incoming traffic flow based on the indication of the operating condition. The adjusting includes renegotiating the at least one parameter of constraint or providing a recommendation based on the at least one parameter of constraint. The adjusting includes performing parameter mapping and resource usage calculation.

Claim 19, upon which claims 21-27 depend recites a differentiated service network including a first router and a second router coupled to the first router. The first router being associated with a first entity to determine an operating condition at the first router based on evaluation of incoming packets and computation of an effective load by each of a plurality of routers. The first entity associated with the first router propagates

an indication of the operating condition at the first router device to the second router, wherein a signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the operating condition of the first router being reflected in the indication. The network includes an adjusting unit configured to adjust at least one parameter of constraint of incoming traffic flow based on the indication, wherein the adjusting unit is configured to renegotiate renegotiating the at least one parameter of constraint or provide a recommendation based on the at least one parameter of constraint. The adjusting unit is configured to perform parameter mapping and resource usage calculation.

Claim 28 recites an apparatus including determining means for determining an operating condition at a first router in a differentiated service network having a plurality of routers based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers. The apparatus also includes propagating means for propagating an indication of the operating condition at the first router to a second router, wherein a signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the operating condition of the first router being reflected in the indication. The apparatus further includes adjusting means for adjusting at least one parameter of constraint of incoming traffic flow based on the indication, wherein the adjusting means includes means for renegotiating the at least one parameter of constraint or providing a recommendation based on the at least one

parameter of constraint and wherein the adjusting includes performing parameter mapping and resource usage calculation.

Claim 29 recites a second router including receiving means for receiving, at the second router, an indication of an operating condition at a first router, wherein the operating condition is determined in the first router based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers and wherein a signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the operating condition of the first router being reflected in the indication. The second router also includes adjusting means for adjusting at least one parameter of a constraint of incoming traffic flow based on the indication of the operating condition, wherein the adjusting means includes means for renegotiating the at least one parameter of constraint or providing a recommendation based on the at least one parameter of constraint. The adjusting includes performing parameter mapping and resource usage calculation.

Claim 30 recites a first router including coupling means for coupling the first router to a second router, the first router being associated with a first entity to determine an operating condition at the first router based on evaluation of incoming packets and computation of an effective load by each of a plurality of routers. The first entity associated with the first router propagates an indication of the operating condition at the first router device to the second router. A signal indicating at least network traffic status is sent from each of the plurality of routers to a bandwidth broker, the signal of the

operating condition of the first router being reflected in the indication. The second router includes means adjusting at least one parameter of constraint of incoming traffic flow based on the indication, wherein the adjusting means includes means for renegotiating the at least one parameter of constraint or providing a recommendation based on the at least one parameter of constraint and, the adjusting means includes means for performing parameter mapping and resource usage calculation.

As outlined below, Applicant submits that the cited references of Pashtan, Barri and Reininger do not teach or suggest the elements of claims 1-19 and 21-30.

Pashtan teaches a communication network that connects a plurality of users by creating a plurality of communication traffic flows through a plurality of network elements. The communication flows may include a plurality of micro communication flows. A network element may detect congestion of a micro communication flow and may also detect a communication flow priority associated with the congested micro communication flow. As such, a second network element may change the first communication traffic flow priority from a first level to a second level. The first network element may communicate with the second network element to inform the second network element of a request for change of the communication traffic flow priority. See figure 4 and Col. 4, line 31-Col. 5, line 11.

Barri discloses a method and system using congestion indicators within an ingress system, egress system and a switch fabric in conjunction with a coarse adjustment system

and fine adjustment system within the ingress device and the egress device to intelligently manage the system. See at least the Abstract.

Reininger discloses that a QoS request is sent from a client application to a server application. For example, in figure 5 of Reininger, the client application seeks additional bandwidth in the QoS request. In another example as illustrated in figure 6 of Reininger, a client terminal requests a video title from a remote server. At the connection setup, the client application requests the desired QoS from the server and a network. The quality requested from the network is a soft-QoS specification, characterized as a satisfaction index and a softness profile. While a connection is in progress, the application can renegotiate its QoS requirements. At the server side, the terminal QoS controller computes and renegotiates the bit-rate necessary to maintain a desired target quality. The renegotiation requests are sent to soft-QoS controllers on the network's switches. While the renegotiations are being processed, and during network congestion, a variable bit rate source uses rate control to scale its bit rate and quality to ensure that the generated traffic conforms to the allocated bandwidth. See at least Col. 8, lines 2 1-58 of Reininger.

Figures 7-9 of Reininger show conceptual implementation of systems detailing various network mechanisms for dynamic QoS support. In figure 7, a client is connected to a server across an ATM network through ATM switches that are also connected to soft-QoS controllers. Setup and modification requests are made by the server to the network. Newly established connections and modification availability are received by the server. See Col. 8, line 63-Col. 9, line 3 of Reininger.

Applicants submit that the combination of Pashtan, Reininger and Barri fail to disclose or suggest the combination of elements recited in claims 1-19 and 21-30. Pashtan, Reininger and Barri fail to disclose or suggest recites determining an operating condition at a first router in a differentiated service network having a plurality of routers based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers and propagating an indication of the operating condition at the first router to a second router, as recited in claims 1-19 and 21-30. Claims 1-19 and 21-30 also recite a signal indicating at least network status traffic is sent from each of the plurality of routers to a bandwidth broker and wherein the signal of the operating condition of the first router is reflected in the indication. According to the present invention, all of the routers calculate the network load and the information are sent to the edge (second) router(s) for faster reaction time. Page 14, line 19 – page 16, line 10, of the current specification teaches that all of the routers calculate the network load and that coordination of the edge router(s) behavior takes place in the bandwidth broker.

Pashtan, Reininger and Barri, on the other hand, do teach or suggest determining an operating condition at a first router in a differentiated service network having a plurality of routers based on evaluation of incoming packets and computation of an effective load by each of the plurality of routers and propagating an indication of the operating condition at the first router to a second router, recited in the presently pending claims. The Office Action cited Figures 3 and 4 of Pashtan as teaching these features. Figure 3 and the associated disclosure in Pashtan, discusses network elements such as a

classifier, a meter, a marker and a shaper/dropper. The Office Action alleged that these network elements are equivalent to the plurality of routers recited in the pending claims. As is known to one skilled in the art, a router is a device that finds the best route between any two networks, even if there are several networks to traverse. Pashtan teaches that the classifier is used for classifying ingress data packets, the meter is used for measuring performance, the marker is used for marking data packets and the shaper and dropper is used to shape the data traffic flow according to a profile. Pashtan further discloses that these network elements collectively connect source users to terminal users. See Col. 2, lines 52-58. It is apparent to one of ordinary skill in the art that none of the cited network elements of Pashtan is equivalent to a router. Furthermore, none of the cited network elements of Pashtan compute of an effective load which is used to determine the operating condition at a first router which includes the plurality of routers.

Pashtan, Reininger and Barri also do teach or suggest wherein a signal indicating at least network status traffic is sent from each of the plurality of routers to a bandwidth broker and wherein the signal of the operating condition of the first router is reflected in the indication, as recited in the presently pending claims. The Office Action equated the network management component of Pashtan with the bandwidth broker. Page 8, lines 18-20 of the present application discloses that the bandwidth broker is an agent responsible for allocating preferred service to user and for configuring the routes with the correct forwarding behavior. Col. 2, lines 59-61 of Pashtan disclose that a network management controller collects information from the meter of each network element.

Pashtan does not teach or suggest a bandwidth broker. Furthermore, Pashtan does not teach or suggest wherein a signal indicating at least network status traffic is sent from each of the plurality of routers to a bandwidth broker and wherein the signal of the operating condition of the first router is reflected in the indication, as recited in the presently pending claims. Therefore, Applicants assert that the rejection under 35 U.S.C. 103(a) should be withdrawn because neither Pashtan, Reininger nor Barri, whether taken singly or combined, teaches or suggests each feature of claims 1, 10, 19 and 28-30 and hence, dependent claims 2-9, 11-18 and 21-27 thereon.

As noted previously, claims 1-19 and 21-30 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-19 and 21-30 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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